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ABSTRACT

Development of numerous materials projects and programs is a continuing characteristics of environmental education. Most have been modest, local in scope, and short-lived. But in recent years many have become more ambitious, substantive, and sophisticated, more effectively designed and better positioned to make significant educational impacts on selected audiences. This digest briefly describes several of these activities: "Operation Earth" (Public Broadcasting System Program); "National Issues Forum" (an environmental reader featuring 200 short scripts); "Earthwatching" (provides models for public discussion); "Essential Learnings" (joint project between Centre for Environment in India and State University of New York at Syracuse); "Activity Guide Evaluation" (comprehensive curriculum evaluation project by California State Department of Education); and "Standards Development" (American Society for Testing and Materials exploration of needs in establishing voluntary standards). A list of six selected references is provided. (CW)

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ERIC/SMEAC Environmental Education Digest EDO-SE-90-32 No. 2, 1990

# PROMISING MATERIALS, PROJECTS, AND PROGRAMS FOR ENVIRONMENTAL EDUCATION

Development of numerous materials, projects and programs is a continuing characteristic of environmental education. Most have been modest, local in scope, and short-lived. But in recent years many have become more ambitious, substantive, and sophisticated, more effectively designed and better positioned to make significant educational impacts on selected audiences. This *Digest* reports briefly on several of these activities.

### "Operation Earth"

The Public Broadcasting System (PBS) has initiated "Operation Earth," an extensive project involving 35 hours of new environmental programming during 1990. The intent is to encourage local and individual involvement in environmental activities, and to enable public television stations, educators, and local environmental groups to develop outreach plans which meet the needs of their communities.

Scheduled programs included (Hadingham, 1990):

In January and February, *The Miracle Planet*, a six-part series produced by Nebraska ETV, offering an overview of major global ecosystems;

In April, *Profit the Earth*, a one-hour documentary describing profitable activities which are environmentally benign;

During the summer, four new Audubon specials on old growth forests, the Arctic Refuge, wolves and dolphins;

*Icewalk*, a four-part series for junior-senior high school students, following the North Pole trek of Robert Swan;

During the autumn, *Decade of Destruction*, dealing with social and ecological upheaval in the Amazon during the 1980s; and

Premiering in October, *Race to Save the Planet*, a ten-part comprehensive effort from WGBH-TV, which explores global environmental problems and solutions. Themes explored throughout the series include sustainability, the interconnectedness of economy and ecosystem, short-term versus long-term, tradeoffs, and decision-making and uncertainty (Blackburn, 1989).

In connection with the latter series, a number of ancillary materials are available--videotapes of the programs, teacher's guides distributed by the National Science Teachers Association, an undergraduate-level environmental studies course, and an update of the Global Tomorrow Coalition's *Citizens Guide to a Sustainable Society*.

An additional document associated with these activities is an *Operation Earth Environmental Resource Compendium* (PBS, undated), which includes listings of broadcast and non-broadcast environmental programming, non-broadcast video programs for rental or purchase, environment-related resource organizations and agencies, an extensive bibliography for elementary and secondary students, and listings of computer resources and curriculum resources for educators. It is available for $10 from PBS Elementary/Secondary Service, Department ART, 1320 Braddock Place, Alexandria, VA 22314.

### National Issues Forums

The National Issues Forums, developed by the Kettering Foundation, provide models for public discussion of complex public policy issues. They do not advocate specific positions or points of view, but provide a means through which citizens may learn about and participate in policy dialogues. The assumption is that the nation will benefit if citizens expand their repertoire of ways to discuss national policies, adding those of the traditional town meeting to the more familiar partisan debate.

Issue books have been developed for a broad range of topics. Of interest is *The Environment at Risk: Responding to Growing Dangers* (Melville, 1989). It uses the air quality issue as an illustration of current environmental problems, laying out broad policy choices for discussion. One choice advocates immediate public action, including wide-ranging restrictions. A second rests on balancing the gains from reducing pollution against the costs, while the third argues that intrusive restrictions will not be effective and advocates taxes and price adjustments that reflect the true costs of pollution.

Conveners of forums include high schools, universities and colleges, libraries, churches, literacy programs, professional organizations, community groups, and individuals who use the materials and methods in local study circles. Among materials available for each topic are 40-page issue books, Spanish language issue books, 10-minute video summaries, 30-minute audio tapes, and four-page moderator guides. More information is available from Jon Rye Kinghorn, 100 Commons Road, Dayton, OH 45459-2777.

### Earthwatching

*Earthwatching III: An Environmental Reader with Teacher's Guide* (Sinclair et al., 1990) features 200 short scripts about the workings of nature, scientific inquiry and discovery, and environmental concerns of the past, present, and future. They were originally designed for two-minute features heard on more than 100 radio stations in 10 upper-midwestern states during the 1980s. Topics include ocean pollution, energy conservation, climate change, endangered species, hazardous waste, and outdoor recreation.

The teacher's guide offers sample exercises and suggestions for using the book as a reference, reader, and source of ideas for student reports and debates, research projects, and other assignments in art, health, math-

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ematics, science, and social studies classes from elementary through high school. The volume also contains a subject index and suggests sources of additional information on environmental topics. Two earlier collections of Earthwatch programs, now out of print, were published in the 1970s. For more information, contact Tom Sinclair, Institute for Environmental Studies, University of Wisconsin, Madison, WI 53706.

### Essential Learnings

A cooperative project between the Centre for Environment Learning of Ahmedabad, India, and the College of Environmental Science and Forestry at Syracuse, New York, has led to the production of half-hour television programs for use in middle school classrooms. These programs, dealing with environmental topics, are designed for middle school children. As a part of the project, supporting teachers guides and student activity materials have been produced, with the intention of making them available to others to use in pursuing "environmental literacy" educational goals.

Prepared for North American publication has been *Essential Learnings in Environmental Education* (Ballard and Pandya, 1990), a rigorously constructed set of 600 concepts designed to provide building blocks for developing and reviewing environmental education programs and activities. The concepts are organized in three subsets, dealing respectively with natural systems, resources, and human systems. All are cross-indexed by level (introductory, intermediate, advanced); class (definition, fact, issue, opinion); and objective (awareness, knowledge, attitude, participation). Project directors are David L. Hanselman, SUNY College of Environmental Science and Forestry, Syracuse, NY 13210, and Kartikeya V. Sarabhai, Centre for Environment Education, Ahmedabad, India.

### Activity Guide Evaluation

The California Department of Education is sponsoring a comprehensive curriculum evaluation project to assess existing environmental education activity guides. Designed to provide qualitative descriptions of their strengths and weaknesses, the project is investigating the depth and breadth of curricular context as well as practical usefulness of the materials from the classroom teacher's perspective. Candidate materials are being gathered from across North America. Short annotations of each are planned. Full summaries for the 10-15 top-rated guides in each area are also anticipated.

In each topical area, the project team develops a scope-and- sequence framework, publishes a written compendium of exemplary materials, and prepares a graphically oriented interactive database for use through on-line computer systems. Recommendations on curricular areas needing additional attention will be made to the California Department of Education. The evaluation instrument calls for rankings based on teaching and learning (pedagogy and general content), presentation and organization, and content specific to each topical area.

Evaluations of energy and water education materials will be completed in 1990. During the next two years, activity guides scheduled to be evaluated will deal with integrated waste management, soil/agriculture, air and atmospheric quality, the built environment, and wildlife habitat (terrestrial and aquatic). Topics were selected to be consistent with the California science and social science curricular frameworks.

Plans at present call for eventual distribution of the completed evaluations within the State of California. Project director is W. J. Rohwedder of the Department of Environmental Studies and Planning of Sonoma State University. For information concerning progress on the project contact Betsy Olsen, California Department of Education, 721 Capitol Mall, Sacramento, CA 95814.

### Standards Development

The American Society for Testing and Materials (ASTM) has initiated an exploration of needs for and interest in the establishment of voluntary standards on environmental education. During formative meetings, four subcommittees were formed-- environmental literacy, formal education, non-formal education, and technical training. Early meetings have focused on definitions and the development of strategies to accomplish the establishment and acceptance of voluntary standards. A workshop on establishing a draft standard has been planned for an Autumn 1990 meeting. For more information, contact Wendy Dyer, ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

### Summary

The activities described above exemplify, to some extent, current developments in materials, projects, and programs for environmental education. They demonstrate the range of interests and audiences in the field, and imply increasingly high levels of involvement in the preparation of substantive instruction and learning.

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